

REMARKS

The Office Action dated August 11, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-28 are pending in the application. Claims 6, 8-13, 15, 20 and 27 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter is added. Applicant submits the pending claims for consideration in view of the following.

Allowable Subject Matter

Claim 4 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant appreciatively acknowledges that examination of claim 4.

§101 Rejections

Claims 1-7 were rejected under 35 U.S.C. §101 for being directed to non-statutory subject matter. In support of this rejection, the Office Action took the position that claims 1-7 must recite what physical elements perform the method in order to be considered statutory subject matter. Applicant traverses this rejection as follows.

The Office Action failed to make a *prima facie* rejection for failing to provide reasons why the rejected claims fail to meet the machine-or-transformation test. In view of the recent decision in *In re Bilski*, instead of several potential tests to determine whether a claimed process recites patentable subject matter, there is now only one test; the so-called “machine-or-transformation test.” Now, patent examiners and others, who are evaluating whether a particular business method or other process is patentable, must ask if the process (1) is tied to a particular machine or apparatus, or (2) transforms a particular article into a different state or thing.

On page 3, the Office Action alleged that claims 1-7 are not directed to a statutory class because “they do not show what physical element performs the process.” However, the Office Action provided no allegation or reasoning as to claims 1-7 satisfying the transformation portion of the machine-or-transformation test. Accordingly, the Office Action fails to make a *prima facie* rejection under 35 U.S.C. § 101 for failing to apply the machine-or-transformation test in its entirety. Withdrawal of this rejection is therefore respectfully requested because the Office Action failed to make a *prima facie* rejection. In the event that a similar rejection is asserted in a subsequent Office Action, Applicant points out that such an assertion would be for the first time on the record such that the subsequent Office Action cannot be made final.

Further, Applicant asserts that claims 1-7 recite statutory subject matter for reciting that a connection is established upon establishing and processing a radio channel

candidate. Withdrawal of this rejection is therefore respectfully requested for this reason as well.

Claims 21-26 were rejected under 35 U.S.C. §101 for being directed to non-statutory subject matter. This rejection is traversed on the grounds that claims 21-26 recite statutory subject matter. According to MPEP 2106.01(I), “a computer-readable medium encoded with a computer program” is statutory where it is directed to functional descriptive material. “Functional descriptive material” consists of “a claimed computer-readable medium encoded with a computer program” because it “is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized” (MPEP 2106.01(I)). As such, because claims 21-26 recite that the computer program is embodied on a computer-readable medium and is configured to control a processor to perform operations, the computer-readable medium of claims 21-26 is functional, and, therefore, statutory. Withdrawal of this rejection is therefore respectfully requested.

§103(a) Rejections

Claims 1-3 and 5-28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sakai et al. (US 7,197,303) in view of Fisher et al. (US 5,528,596). The Office Action took the position that Sakai does not disclose calculating at least one dominant interference ratio being the ratio of a signal level of a strongest potentially interfering

signal with respect to a sum of signal levels of other potentially interfering signals and calculating based on dominant interference ratio. However, the Office Action also took the position that these limitations are disclosed by Fisher in a manner that renders the rejected claims obvious to of ordinary skill in the art. This rejection is traversed as follows.

Claim 1, upon which claims 2-7 and 14 depend, is generally directed to a method that comprises establishing a radio channel candidate, and processing the radio channel candidate with potentially interfering signals and calculating a carrier to interference ratio for a selected carrier frequency of the radio channel candidate and the potentially interfering signals. The method also comprises calculating at least one dominant interference ratio being the ratio of a signal level of a strongest potentially interfering signal with respect to a sum of signal levels of other potentially interfering signals. The method further comprises using a criteria based on the dominant interference ratio in a channel selection process for selecting a channel for the connection to be established.

Claim 8, upon which claims 9-11 and 15 depend, is generally directed to an apparatus that comprises an establisher configured to establish a radio channel candidate, and a first calculator configured to process the radio channel candidate with potentially interfering signals and to calculate a carrier to interference ratio based on a selected carrier frequency of the radio channel candidate and potentially interfering signals. The apparatus also comprises a second calculator configured to calculate a dominant

interference ratio being a ratio of a signal level of a strongest potentially interfering signal with respect to a sum of the signal levels of other potentially interfering signals. The apparatus further comprises a selector configured to implement a selection process for selecting a channel for a connection to be established using criteria based on the dominant interference ratio.

Claim 12, upon which claim 13 depends, is generally directed to a system that comprises a plurality of stations. At least some of the stations comprise an establisher configured to establish a radio channel candidate, and a first calculator configured to process the radio channel candidate with potentially interfering signals and to calculate a carrier to interference ratio based on a selected carrier frequency of the radio channel candidate and potentially interfering signals. At least some of the stations also comprises a second calculator configured to calculate a dominant interference ratio being a ratio of a signal level of a strongest potentially interfering signal with respect to a sum of the signal levels of other potentially interfering signals. At least some of the stations further comprise a selector configured to implement a selection process for selecting a channel for a connection to be established using criteria based on the dominant interference ratio.

Claim 16, upon which claims 17-20 depend, is generally directed to an apparatus that comprises a means for establishing a radio channel candidate, and a means for processing the radio channel candidate with potentially interfering signals and calculating a carrier to interference ratio based on a selected carrier frequency of the radio channel candidate and potentially interfering signals. The apparatus also comprises a means for

calculating a dominant interference ratio being a ratio of a signal level of a strongest potentially interfering signal with respect to a sum of the signal levels of other potentially interfering signals. The apparatus further comprises a means for implementing a selection process for selecting a channel for a connection to be established using criteria based on the dominant interference ratio.

Claim 21, upon which claims 22-28 depend, is generally directed to a computer program embodied on a computer-readable medium. The computer program is configured to control a processor to perform operations comprising establishing a radio channel candidate. The operations also comprise processing the radio channel candidate with potentially interfering signals and calculating a carrier to interference ratio for a selected carrier frequency of the radio channel candidate and the potentially interfering signals. The operations further comprise calculating at least one dominant interference ratio being the ratio of a signal level of a strongest potentially interfering signal with respect to a sum of signal levels of other potentially interfering signals. Further still, the operations comprise using a criteria based on the dominant interference ratio in a channel selection process for selecting a channel for the connection to be established.

Each of the foregoing claims recite limitations that are not disclosed or suggested by a combination of Sakai and Fisher.

Sakai discloses a cellular communication system that enables an improved monitoring of interference. In Sakai, the cellular communication system includes a cell station and a maintenance terminal. The cell station provides a communication service

for a personal station, and also executes continuous monitoring of an interfering wave during a period to produce an interference monitor data representative of a property of the interfering wave. The maintenance terminal produces an interference profile based on the property.

Fisher discloses a method for marshalling an additional outstation of a time division multiple access (TDMA) telecommunications system. The TDMA is disclosed as including a base station and a plurality of outstations, such as a passive optical network (PON). In Fisher, a sequence is transmitted from the additional outstation to the base station at a level below the noise sensitivity of a base station receiver, where the sequence is detected and its phase discriminated. A loop delay to the additional outstation is determined from the discriminated phase, and an outstation is instructed to realign its transmission accordingly. The sequence and its phases are detected by a correlation process..

However, a combination of Sakai and Fisher fails to disclose or suggest all the limitations of the rejected claims. For example, a combination of Sakai and Fisher fails to disclose or suggest “calculating at least one dominant interference ratio being the ratio of a signal level of a strongest potentially interfering signal with respect to a sum of signal levels of other potentially interfering signals; and using a criteria based on the dominant interference ratio in a channel selection process for selecting a channel for the connection to be established,” as recited in claims 1, 8, 12, 16, and 21.

As indicated above, the Office Action has correctly taken the position that Sakai does not disclose “calculating at least one dominant interference ratio being the ratio of a signal level of a strongest potentially interfering signal with respect to a sum of signal levels of other potentially interfering signals.” However, Sakai also fails to disclose the limitations of “using a criteria based on the dominant interference ratio in a channel selection process for selecting a channel for the connection to be established.” Since Sakai does not disclose calculating the dominant interference ratio, it clearly cannot disclose using a criteria based on the dominant interference ratio. Accordingly, not only does Sakai fail to disclose the claimed “calculating,” Sakai also fails to disclose the claimed “using.”

Similarly, Fisher fails to disclose the claimed “calculating” and “using.” Instead, Fisher discloses a passive optical network including a base station and a plurality of outstations. This document is particularly concerned with processing transmissions from “new” outstations so that their time of transmission does not interfere with existing traffic transmissions. Part of this process is discussed in the paragraph bridging columns 3 and 4 of Fisher. In particular, it is stated that “the summation circuit will be cumulatively incremented by the components of the signal received from the outstation that is in phase with the reference sequence whilst noise having a zero mean value will not be cumulative and hence over a sufficient number of samples, an originally dominate noise to signal ratio will result in the in phase component causing one of the L correlators to reach a predefined detection threshold.”

Consequently, it appears that the Examiner considers Fisher's "originally dominant noise to signal ratio" to be comparable to the "dominant interference ratio" of the present claims. However, this is not the case. For example, claim 1 states the "dominant interference ratio being the ratio of a signal level of a strongest potentially interfering signal with respect to a sum of signal levels of other potentially interfering signals." Therefore, the dominant interference ratio of the claimed invention is a ratio of two interfering signals. This contrasts with the "dominant noise to signal ratio" of Fisher, which is a ratio of noise (interference) to a signal (no interference). The dominant noise to signal ratio of Fisher is therefore not comparable to the dominant interference ratio of the present claims.


Consequently, a combination of Sakai and Fisher fails to disclose or suggest "calculating at least one dominant interference ratio being the ratio of a signal level of a strongest potentially interfering signal with respect to a sum of signal levels of other potentially interfering signals; and using a criteria based on the dominant interference ratio in a channel selection process for selecting a channel for the connection to be established," as recited in claims 1, 8, 12, 16, and 21. Additionally, a combination of Sakai and Fisher fails to disclose or suggest the limitations of claims 2-7, 9-11, 13-15, 17-20, and 22-28, for their dependency from claims 1, 8, 12, 16, and 21, and for the patentable subject matter recited therein. Withdrawal of this rejection is therefore respectfully requested.

Conclusion

Applicant respectfully requests that the foregoing rejections be withdrawn. If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time
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